WAYNE PERRY, INC.

Environmental Remediation, Construction and Consulting

February 25, 2015

California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Attn: Mr. Arman Toumari

SUBJECT: WORK PLAN FOR SOIL VAPOR SURVEY
FORMER SHELL SERVICE STATION
10306 SOUTH WILMINGTON AVENUE (at 103rd Street)
LOS ANGELES, CALIFORNIA
CRWQCB-LA CASE: 900020070
WPI JOB NUMBER: 14.289
SAP CODE: 176084

Dear Mr. Toumari:

In a telephone conversation on December 30, 2014, you indicated that the above-referenced site could be closed if a soil vapor survey (SVS) was conducted for the school property across the street from the former Shell service station located at 10306 South Wilmington Avenue (at 103rd Street) in the city of Los Angeles, California (Site) as shown on Figure 1, to demonstrate that there was no risk to the school from the former Shell. Wayne Perry Inc. (WPI), on behalf of Shell Oil Products US (Shell), is submitting this work plan to conduct a SVS.

BACKGROUND

Site Description

The site is located on the southeast corner of the intersection of South Wilmington Avenue and 103rd Street in Los Angeles, California (Figure 1). There was Shell service station at the site from approximately 1956 to 1976. The underground storage tanks, dispenser islands, product piping, and station building were removed in May 1976. In 1983, Church's Fried Chicken acquired a lease and operated a restaurant at the site until May 1992. The site is currently being developed into a

8281 Commonwealth Ave. Buena Park, California 90621 Phone (714) 826-0352 (800) 883-0352 Fax (714) 523-7880

Louisiana Fried Chicken restaurant and a dry cleaner. Previous and proposed site features are shown on Figure 2.

The surrounding land use is a mixture of commercial and residential. Florence Griffith Joyner Elementary School is located north of the site across 103rd Street. An alley and a convenience and small clothing store are located east of the site. An apartment building is located immediately south of the site. Single family residences are located west of the site across Wilmington Avenue. A church is located northeast of the site across the intersection of Wilmington Avenue and 103rd Street.

PROPOSED WORK ACTIVITIES

Pre-Field Activities

Pre-field activities will include:

- Updating the existing WPI Health and Safety Plan, as necessary;
- Obtaining necessary permits;
- Scheduling subcontractors; and
- Notifying Underground Service Alert at least one week prior to commencement of work to perform an underground utility clearance for the planned drilling location.

Field Activities

Prior to any assessment activities, a geophysical survey will be performed to locate all underground utilities in the vicinity of the proposed SVS. All SVS locations will be hand-augered to a depth of 2 feet depending on the location of the proposed boring relative to subsurface utilities and to a width three inches larger than the diameter of the probe.

Vapor Probe Installation

Three vapor probes will be installed in the sidewalk adjacent to the school grounds as shown on Figure 2. If there are utilities present that prevent the SVS in the sidewalk, the probes will be moved south into the street. The borings will be advanced with a hardened 7/8-inch steel tip on the end of the 3/4-inch probe rod. At the desired depth, the rod will be removed and the soil vapor probe consisting of 1/8-inch Nylaflow® with a small airstone filter attached to the end will be inserted into the open borehole. The airstone filter will be positioned at the desired sample depth and 6- to 12-inches of #3 medium aquarium sand will be poured into the borehole. Approximately 6- to 12-inches of dry granular bentonite will be placed above the sand pack. The boring will then be completed to the surface with hydrated bentonite and a well box. An airtight valve will be attached to the end of the Nylaflow tubing at the surface. Each soil vapor probe will be labeled with an identification tag that indicates the sample ID (with probe depth), the time that the probe was installed, the diameter and height of the sand pack, the diameter and height of the dry bentonite, and the total length of probe tubing.

Vapor Probe Sampling

Vapor samples will be collected by H&P Mobile Laboratories, Inc. a minimum of 48 hours after probe installation. Immediately prior to purging and sampling, a shut-in test will be conducted on the sampling train to check for leaks in the above-ground fittings. The shut-in test will be conducted by attaching the complete sample train assembly to the soil vapor probe termination valve. With the valve attached to the soil vapor probe in the off position, a purge syringe will be used to evacuate the sample train of air to a minimum measured vacuum of approximately 100 inches of water. The vacuum will be observed using an in-line vacuum gauge positioned prior to the purge syringe or vacuum pump. The vacuum will be maintained for at least one minute. If there is an observable loss in vacuum, the fittings in the sample assembly will be checked and tightened, and the test will be repeated. Sampling will not be initiated until the above-ground fittings passed the shut-in test.

One, three, and ten purge volumes will be removed to determine the purge volume to be applied at all sampling points. The purge volume to be used at the site will be selected based on the highest concentrations of VOCs detected during the purge volume test. If VOCs are not detected during the step test, a default of three purge volumes will be used.

To ensure that ambient air does not infiltrate (and dilute) the soil vapor sample, a tracer compound [1,1-difluoroethane (1,1-DFA)] will be used at the ground surface of each probe location.

Vapor samples will be collected using small plastic, calibrated syringes. An air tight 3-way valve will be attached to the syringe that allowed the purge air to be drawn into the syringe and then evacuated out the side port on the valve. The syringe will be attached to an in-line vacuum gauge so that probe vacuum can be monitored as the plunger draws in the soil vapor. During purging, the flow rate will be timed so that it does not exceed 200 milliliters (ml) per minute. Samples will be collected in 50 ml glass syringes for analysis in the mobile lab or 400 (ml) summa canisters for analysis at the stationary lab. All sampling will be conducted in accordance with the Department of Toxic Substances Control's (DTSC's) Advisory-Active Soil Gas Investigations Guidelines (dated April 2012), and under the supervision of a California Professional Geologist.

After obtaining samples from the soil vapor probes, air will be extracted from one of the soil vapor probes and measurements of air pressure and flow rate will be collected to determine soil permeability.

After final sample collection and analysis is completed, the probe tubing will be removed from the well by pulling it out from the surface. Because of the small diameter size of the tubing and the construction of the well with hydrated bentonite, it is assumed that any open pore space left from the tubing is minimal and was sealed with the expansion of the hydrated bentonite. If there is any indication that the removal of the tubing created an open pore space, additional bentonite (or a bentonite slurry), will be added to the borehole to properly seal the void space. The surface of each borehole will be sealed with concrete and finished to match existing grade.

Laboratory Analysis

Vapor samples will be analyzed for volatile organic compounds using EPA Method 8260B full scan, methane using LUFT/8015M, and fixed gases using ASTM 1945-96. In addition to chemical analyses, soil samples will be collected during installation of the soil vapor probes and analyzed for porosity (total, air filled, water filled and effective), density, permeability to air, and grain size.

Soil recovered from each sample interval will be examined in the field for observable signs of petroleum hydrocarbons, screened for hydrocarbon vapors using a photo-ionization detector calibrated to hexane, and examined for soil classification. Soil will be classified in general accordance with the Unified Soil Classification System. The soil classification and description, including blow counts, grain size, size grading, subordinate constituents, color, density, moisture content, and organic vapor readings will be recorded on a field boring log maintained for each location.

In addition to chemical analyses, one soil sample collected during installation of the soil vapor probes will be analyzed for porosity (total, air filled, water filled, and effective), density, permeability to air, and grain size.

Soil generated from the borings will be placed in 55-gallon drums and sealed upon completion of work activities. Soil cuttings will transported off site to a licensed facility for treatment and disposal.

To avoid cross-contamination, all reusable equipment will be broken down prior to and after each use and cleaned, using an approved non-phosphate detergent, double-rinsed in distilled water, and allowed to air dry.

All work will be performed under the supervision of a California Professional Geologist.

REPORTING

A report documenting the results of the SVS will be submitted to the CRWQCB-LA, 60 days after receipt of analytical data. The report will include:

- Objectives and background;
- Discussion of results;
- Chemical and field measurement data summarized in tables; and
- Copies of laboratory reports and chain-of-custody documents.
- Risk Analysis

SCHEDULING

The proposed activities will be implemented within 60 days following receipt of approval to proceed from the CRWQCB-LA. If approval of the work plan is not received within 60 days of submittal WPI will submit a notice of intent to proceed with field activities.

WARRANTY STATEMENT

This work plan has been prepared by Wayne Perry, Inc. for the exclusive use of Shell Oil Products US, as it pertains to the site located at 10306 South Wilmington Avenue (at 103rd Street) in Los Angeles, California. Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other geologists, hydrogeologists, and engineers practicing in this field. No other warranty, express or implied, is made as to the professional advice in this report.

If you have questions or require additional information regarding this report, please contact Ms. Andrea Wing of Shell at (714) 731-1050 or Mr. John Huff of WPI at (714) 826-0352.

Sincerely,
Wayne Perry Inc.

John Huff
Senior Engineer

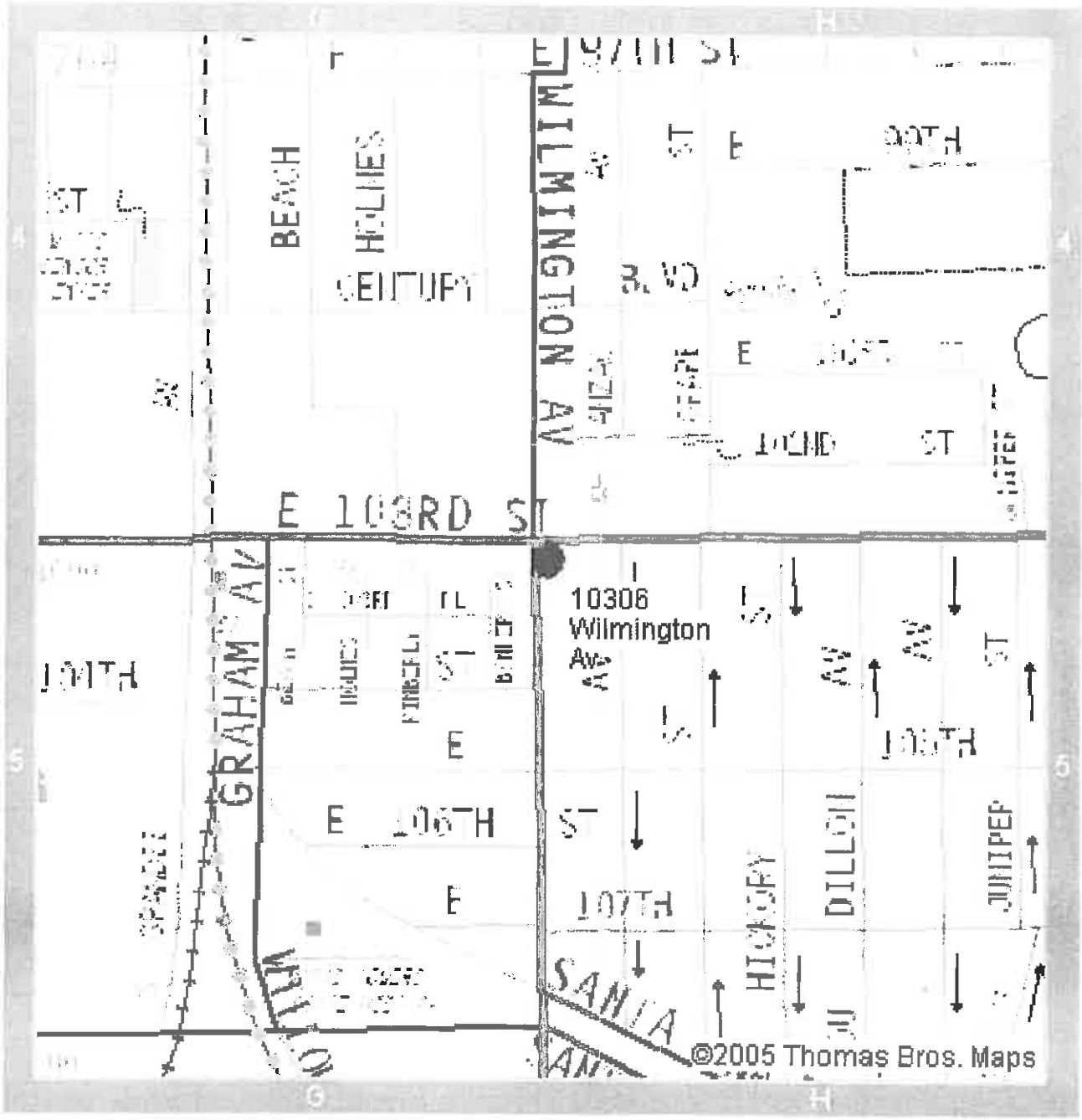
David M. Henry
California Registered Geologist 4085

Figures:
1, Location Map
2, Plot Plan

cc: Ms. Andrea Wing, Shell Oil Products US
Mr. Teddy Chang of Htt Properties LLC, Property Owner

FIGURES

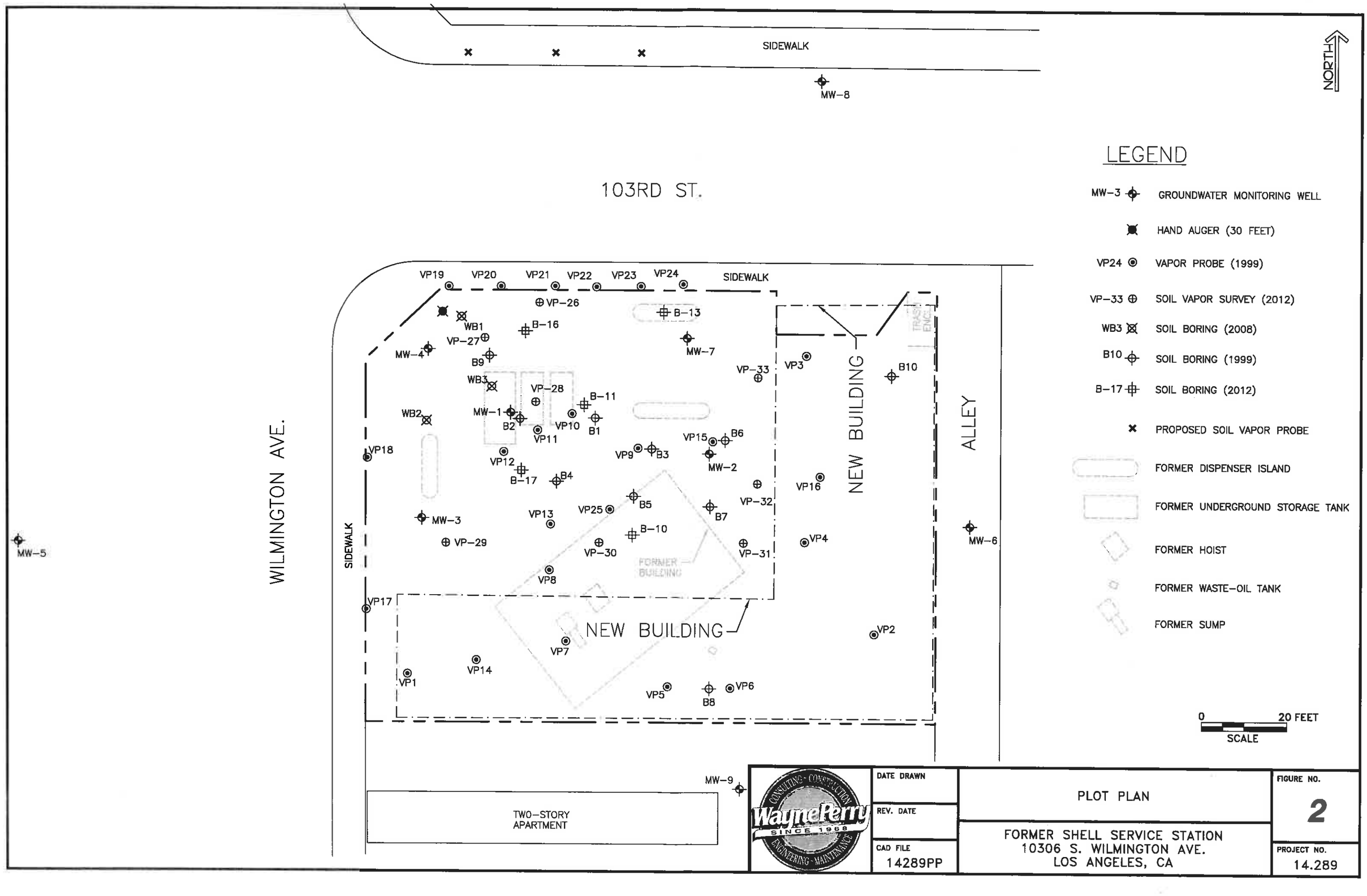
FIGURES



NOT TO SCALE

NORTH

Wayne Perry	DATE	SITE LOCATION MAP	FIGURE NO. 1
	REVISED	FORMER SHELL SERVICE STATION 10306 S. WILMINGTON AVE. LOS ANGELES, CA	
	CAD FILE 14289LM		PROJECT NO. 14.289



LEGEND

- MW-3 — GROUNDWATER MONITORING WELL
- HAND AUGER (30 FEET)
- VP24 — VAPOR PROBE (1999)
- VP-33 — SOIL VAPOR SURVEY (2012)
- WB3 — SOIL BORING (2008)
- B10 — SOIL BORING (1999)
- B-17 — SOIL BORING (2012)
- PROPOSED SOIL VAPOR PROBE
- FORMER DISPENSER ISLAND
- FORMER UNDERGROUND STORAGE TANK
- FORMER HOIST
- FORMER WASTE-OIL TANK
- FORMER SUMP

0 — 20 FEET
SCALE

Wayne Perry — CONSULTING · CONSTRUCTION · ENGINEERING · MAINTENANCE — SINCE 1988

DATE DRAWN	
REV. DATE	
CAD FILE	14289PP

PLOT PLAN

FORMER SHELL SERVICE STATION
10306 S. WILMINGTON AVE.
LOS ANGELES, CA

FIGURE NO. 2

PROJECT NO. 14.289